DOCUMENT RESUME

ED 286 797 SO 018 410

AUTHOR Ingels, Steven J.; O'Brien, Mary Utne
TITLE Economic Attitudes and Attitude Change: The Impact of Economic Instruction in Early Adolescence.
INSTITUTION National Opinion Research Center, Chicago, Ill.
PUB DATE 22 Apr 87
NOTE 35p.; Paper presented at the Annual Meeting of the American Educational Research Association (Washington, DC, April 20-24, 1987). For related documents, see ED 268 016-017.
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adolescents; Affective Behavior; *Affective Measures; *Attitude Change; Cognitive Processes; *Economics; Economics Education; Junior High Schools; Social Science Research; *Student Attitudes

ABSTRACT

A cognitively-oriented course of economics instruction will affect student attitudes toward economic issues. This was the finding of a study designed to ascertain economic attitudes in adolescents. Economic attitudes were measured by an instrument which used eight moderately reliable multi-item scales. The measure was applied in a quasi-experimental pretest/posttest design to two groups of ninth-graders. One group had previous economics instruction and the other had not. This research design measured the affective impact of a cognitively-oriented economics curriculum. The research was based on two hypotheses: (1) that economics instruction would have an impact on student attitudes toward economic issues; and (2) that the observed attitudinal changes would be in the same direction as affective changes associated with developmental trends. At the pretest, there were no systematic or statistically significant differences between the two groups. Analysis of covariance at the posttest showed modest but statistically significant differences between the groups on five scales. The results also gave qualified support to the hypothesis that these instructional effects may be interpreted as an acceleration of developmental trends in economic and related social attitudes. (SM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED236797

ECONOMIC ATTITUDES AND ATTITUDE CHANGE:

THE IMPACT OF ECONOMICS INSTRUCTION IN EARLY ADOLESCENCE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Steven J. Ingels

M.U. Obrien

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

SO018410

BEST COPY AVAILABLE

NORC

ECONOMIC ATTITUDES AND ATTITUDE CHANGE:

THE IMPACT OF ECONOMICS INSTRUCTION IN EARLY ADOLESCENCE

Paper for:

The Economic Education Special Interest Group
American Educational Research Association
Annual Meeting, Washington, DC, April 22, 1987

By:

Steven J. Ingels
Mary Utne O'Brien
NORC
University of Chicago
1155 East 60th Street
Chicago, Illinois 60637

ECONOMIC ATTITUDES AND ATTITUDE CHANGE: THE IMPACT OF ECONOMICS INSTRUCTION IN EARLY ADOLESCENCE.

Paper for the Economic Education SIG, American Educational Research Association, 1987 Annual Meeting, Washington, D.C., April 22, 1987.

Steven J. Ingels and Mary Utne O'Brien
NORC, A Social Science Research Center
University of Chicago
1155 East 60th Street
Chicago, Illinois 60637

ABSTRACT

This paper reports the results of the second phase of a two-part study of the economic values and attitudes of junior high school age youth. In the first part of the research, an original measure of economic attitudes was developed in the form of eight moderately reliable multi-item scales. Subsequently, this measure was applied in a quasi-experimental pretest-posttest design to two groups of ninth graders: a group that had undergone economics instruction, and a group drawn from the same schools who had not undergone economics instruction.

This design measured the affective impact of a cognitively-oriented economics curriculum. The research was animated by two hypotheses: (1) that economics instruction would have an impact on student attitudes toward economic issues; and (2) that the observed attitudinal changes would be in the same direction as affective changes associated with developmental trends. (As a comparison measure of cognitive maturity, extent of economic knowledge was also examined, to see if observed changes were in the same direction as attitudes associated with greater economic understanding.)

While, at the pretest, there were no systematic or statistically significant differences between the two groups as measured on the eight economic attitude scales, analysis of covariance at the posttest showed modest but statistically significant differences between the groups on five scales.

The research results support the view that a cognitively-oriented course of economics instruction will affect student attitudes toward economic issues, and give qualified support to the hypothesis that these instructional effects may be interpreted as an acceleration of developmental trends in economic and related social attitudes.

ECONOMIC ATTITUDES AND ATTITUDE CHANGE: THE IMPACT OF ECONOMICS INSTRUCTION IN EARLY ADOLESCENCE[1]

Steven J. Ingels, Mary Utne O'Brien
NORC, University of Chicago

American Educational Research Association Annual Meeting, Economic Education Special Interest Group, April 22, 1987, Washington D.C.

1. INTRODUCTION.

This paper reports on the second phase of a two-part research project. In the first phase, a measure of economic attitudes and values, the Economics Values Inventory (EVI)[2], was developed. In the second phase of research, the EVI was used to measure and interpret economic attitude changes attributable to a period of cognitively-oriented classroom instruction.

The main hypothesis of the second phase of research was that economics instruction affects attitudes toward economic issues. We also hypothesized that instruction augments developmental changes in attitude - that is, instruction produces changes in attitude in the same direction as changes that occur in the absence of instruction. Discussion of the background to this research may provide useful orientation to the study and its purposes.

Though in recent years the development of economic reasoning in young people has increasingly been studied (Sutton 1962; Jahoda 1979, 1981; Berti and Bombi 1979, 1981, 1982; Burris 1983; Leiser 1983; Schug 1983; Schug and Birkey 1985), other aspects of economic socialization--such as the development of economic attitudes and values--have received scant attention. Notable partial exceptions are the Jackstadt and Brennan (1983) study of the economic attitudes of Hawaiian high school students; and the Economic Attitude Sophistication scale of Walstad and Soper (1983), designed to quantify the degree of attitudinal agreement between high school economics students and the consensus view of professional economists.

Furnham (1982, p. 138) observes that nearly all economic socialization studies have been restricted to pre-adolescents. Affective data are particularly lacking, most especially for younger adolescents, though it is within this developmental period that many social attitudes are thought to crystallize. At the same time, this age span has been deemed highly suitable for introductory economics education (Davis 1985, Banaszak 1985). Indeed, a notable innovation in economics education in recent years has been the development and implementation of economics curricula for the junior high or middle school, especially eighth and ninth grades (NASSP 1981; Rothman 1987 p. 56). The unique interplay of factors in early adolescence-- cognitive development, growth of knowledge, increasing economic participation and experience, focusing of aspirations, and formation of attitude structures--may interact with instruction in complex ways, and renders the possible attitudinal effects of economics instruction a prime topic for empirical investigation.

2. ECONOMIC KNOWLEDGE AND ATTITUDES IN EARLY ADOLESCENCE.

Since attitudes are to a large degree dependent upon understanding,[3] and may crystallize or alter in response to new knowledge, it is important to take note of what adolescents typically comprehend of the economic world. While it is rightly emphasized that children's economic concepts and attitudes begin to take shape at an early age (Kourilsky 1977; Fox 1978; Schug and Birkey 1985), Furnham and Thomas (1984, p. 211) summarize recent developmental research by observing that "whereas the child in the formal operations period may be fairly sophisticated with regard to understanding of the physical world...conceptions of the economic world are not yet fully developed." The economic world is, of course, not so directly observable as the physical. Moreover, the child's experience is of personal economic transactions, whereas economics treats, ultimately, of an impersonal, aggregated system of forces. Thus, Jahoda's work shows that children begin to understand sophisticated economic concepts such as profit only around the age of 11 or 12 (Jahoda 1979) and that understanding of banking emerges only in early adolescence (Jahoda 1981). Leiser (1983, p.134) stresses that from approximately age 11, with the development of abstract reasoning capacities and especially the awareness of contradiction, adolescents begin to be "able to predict at least some economic consequences of macro-economic changes" though "this ability remains limited" and economic knowledge is still only partially integrated. With the possible amplification of economic experience by curricular intervention, economic understanding may reach a quite sophisticated level in some youths. However, economics as a cognitive structure more typically will be but emergent and unevenly developed among younger adolescents.

These generalizations concerning the acquisition of economic concepts mirror findings of the first (developmental) phase of research with the EVI, which confirmed the essentially incipient and incomplete (yet systematic and fairly extensive) structure of economic attitudes in early adolescence. We found that not all important economic attitudinal issues were meaningful to or could be dealt with in a consistent manner by younger adolescents. Attitudinal inconsistencies were far more pronounced for seventh graders than for ninth graders, and most often involved sophisticated economic concepts (for example, inflation). In addition, attitudes seemed relatively uncrystallized in certain thematic areas (for example, government regulation of the economy) that were relatively easy to understand but that were remote from the experience of younger adolescents. Granting the incomplete and nascent character of their attitude structures, however, it is important to note that, as evidenced by the Economics Values Inventory itself, these young people exhibited reasonably well-integrated attitudes toward an extensive range of economic dimensions.

3. METHODOLOGY OF THE EVALUATION.

3.1 The Research Design

The quasi-experimental design for this research specified an initial measurement, or pretest, of students' economic attitudes as measured on the EVI scales, followed by an instructional period (normally one semester in duration), then a posttest of the same youths' economic attitudes.

The central comparison groups for purposes of calculating attitudinal change were users of the textbook, Our Economy: How It Works (Clawson 1984) and students not undergoing economics instruction. Each school with classrooms receiving a full term of instruction with the text also contributed classrooms with no economics instruction. Distribution of students into one or the other group reflected no systematic process.

3.2. The Sample.

In order to maximize the possibility of measuring attitudinal effects of instruction, a fairly homogeneous sample was sought that would minimize other possible sources of attitudinal variation across comparison groups. Respondents were limited to the same grade (9) thus also restricting the age range (modal age = 14 years), as well as (for the instruction group) the same text. However, care was taken to preserve a degree of heterogeneity with respect to factors such as race, sex and socioeconomic status (SES)[4]. By utilizing the entire population of ninth graders in the public schools in Cedar Rapids, Iowa, and Durango, Colorado, a comprehensive cross-section of socioeconomic statuses was obtained. A total of 1,457 students participated, of whom 803 were enrolled in economics and 654 were not.

4. PRETEST FINDINGS

4.1. The Economics Values Inventory.

The EVI was administered to students in the experimental and control groups. The EVI - a self-administered measure of attitudes and values concerning economic issues - consists of eight scales containing a total of 44 economic attitude items. (The EVI is reproduced in the Appendix.)

Scale 1 measures support for the prevailing American economic system. The scale emphasizes the economy in its production and efficiency functions, with individual items that assert the economic benefit of profits, proper use of limited resources, hard work, occupational freedom, competition, division of labor, and savings.

Scale 2 focuses on the image of American business and its contents project a "Trust in Business" value. The scale contains items such as "Most businesses won't sell products they think are unsafe," "Government should listen more to what the business community has to say," and "Advertising helps consumers to make intelligent choices."

Scale 3 is psychological in orientation. It consists of statements that reflect economic alienation and powerlessness and is thus, inversely, a measure of feelings of individual economic efficacy. It contains items such as "It's no use worrying about the economy; I can't do anything about it anyway," and "Getting ahead is mostly a matter of luck."

Scale 4 items assert that government is responsible for social welfare. Students, while strongly affirming the American economic system, see no conflict between an economy in which private capital has a large role, and a system in which the state provides a safety net for the unfortunate.

Scale 5 addresses the issue of the government's role in price setting. (Many students held no opinion about price control items, but roughly equal numbers were either strongly for or strongly against.)

Scale 6 contains items about labor unions, with statements scored to be negative toward unions. Items voicing concern with whether workers get fair treatment in our economy comprise **Scale 7.** **Scale 8** items reflect concern with the fate of the average person and the economy in its distributive aspect.

4.2 Pretest EVI Scale Scores of Experimental and Control Groups.

The data were analyzed to ensure that the economic attitudes of the instruction and no-instruction groups did not evidence statistically significant differences at the pretest. Analysis of variance contrasting the two groups revealed no systematic or statistically significant differences in pretest means (see Table 1 below).

TABLE 1: ANOVA OF PRETEST EVI SCALE SCORES OF EXPERIMENTAL TREATMENT AND CONTROL GROUPS

	Economics Instruction		No Instruction			
SCALE	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F RATIO	F PROB.
1	5.608	0.764	5.574	0.706	0.964	.326
2	4.770	1.029	4.747	0.993	0.184	.668
3	2.851	1.444	2.885	1.189	0.398	.528
4	4.982	1.047	4.967	1.096	0.035	.851
5	3.998	1.761	4.054	1.793	0.417	.518
6	4.521	1.372	4.624	1.359	1.957	.162
7	3.418	1.362	3.382	1.311	0.323	.570
8	4.833	1.142	4.786	1.153	0.753	.386

5. POSTTEST FINDINGS: ATTITUDINAL IMPACTS OF INSTRUCTION

Does exposure to a term of economics instruction affect the economic attitudes of ninth grade students? This question was answered by comparing the post-instruction attitudes of the instruction and no-instruction groups.

The analysis used posttest scores adjusted for the pretest scores as the main technique for exploring differences. This analysis of covariance technique takes into account differences between groups on the pretest; in this respect, it is similar to an analysis of change scores. The analysis of covariance procedure is preferable to analysis of change scores, because simple change scores are often very unreliable. Table 2, based on the analysis of covariance, depicts attitudinal differences between the economics instruction and no-instruction groups. The main hypothesis is supported by statistically significant differences on five of the eight scales: 1, 2, 3, 7, and 8.

The students who underwent economics instruction are more supportive of the American economic system (Scale 1); show more trust in business (Scale 2); express more emphatic rejection of the alienation items (Scale 3); are more likely to feel that workers' treatment is fair (Scale 7); and are less likely to express disagreement with the distributive status quo (Scale 8). No statistically significant difference is seen between the two groups on Scale 4 (government responsibility for social welfare) or on Scales 5 and 6 (price controls and unions, topics little touched upon by the economics text these students used).

As can be seen in Table 2 below, these instructional effects are small in absolute magnitude. While statistically significant, their practical significance must be separately judged. Whether one views them as of practical importance will depend on the context and purposes that inform one's judgment of significance.

To us, these effects seem impressive as outcomes of a single term of instruction with a text (Our Economy) that eschews value recommendations and confines itself to a factual presentation. (Changes on the psychological Scale 3 may seem especially noteworthy, inasmuch as underlying psychological orientations are normally viewed as more resistant to change than attitude domains connected to defined conceptual themes.) If one wants reassurance that the knowledge that is acquired in the classroom does not remain inert, but can pass over into the affective life of students, then one will find these results encouraging.

If, on the other hand, one wants evidence that classroom learning can transform basic attitudes one might regard these changes as trivial, for the overall pattern of attitudes is not altered by instruction - that is, scale scores show no radical change such that a scale that was affirmed at the pretest is rejected at the posttest, or vice versa. Likewise, if one thinks that a primary function of economics education is to realize affective goals - not as evidence that students are connecting their new knowledge to their values - but as a means, for example, to maintaining the

TABLE 2: ANALYSIS OF COVARIANCE: ADJUSTED POSTTEST EVI SCALE MEANS OF NINTH GRADE STUDENTS UNDERGOING VERSUS NOT UNDERGOING ECONOMICS INSTRUCTION.

VALUES SCALE	Economics Yes -- X	Economics No -- X	F	p	S.D.*
1. Support for American Economic System	5.83	5.56	29.329	<.000	.594
2. Trust in Business	4.77	4.61	10.309	<.001	.848
3. Economic Alienation and Powerlessness	2.56	2.70	4.342	<.037	.864
4. Government is Responsible for Social Welfare	4.81	4.81	0.119	n.s.	.848
5. Against Government Role in Price-Setting	4.10	3.99	0.439	n.s.	1.547
6. Against Powerful Unions	4.69	4.75	0.187	n.s.	1.078
7. Workers Receive Fair Treatment	3.76	3.50	6.064	<.014	1.134
8. Against Distributive Status Quo	4.55	4.70	3.885	<.049	.962

1 = Strongly disagree 7 = Strongly agree with scale values

n.s. = not statistically significant (p = >.05)

*Pooled Standard Deviation based on residual from the ANCOVA.

prevailing economic system, much in the way that civics courses sometimes are intended to bolster support for the political system - then one may agree with Leming (1986) that impacts of this size are disappointingly small.

The question of magnitude apart, however, these outcomes largely support, for a substantial junior high school sample, the conclusions that Jackstadt and Brennan derived from their study of older adolescents, namely, that economics courses were found to be a "means of increasing economic knowledge, thereby bringing about positive changes in students' attitudes toward the American economic system, business, and labor unions" (Jackstadt and Brennan 1983, p. 14, but with the qualification "no relationship is found...between knowledge and attitudes toward labor unions," p. 7).

6. COGNITIVE MATURITY AND INSTRUCTIONAL EFFECTS

While our finding is positive--that instruction measurably affected economic attitudes--it sheds no immediate light on the question of the mechanism by which change was effected. One question is whether this change came about primarily as a consequence of increasing students' factual knowledge. We tried to answer this question by asking (a) if instruction had an independent effect not explained by level of factual knowledge; and (b) if the observed changes were in the same direction as differences associated with higher knowledge test scores. A further question is whether the direction of change supports the secondary hypothesis, namely that posttest attitude change would be in the same direction as attitude differences associated with developmental trends.

6.1 Instructional Effects versus Economic Knowledge Effects

In both the first (developmental) phase and the second (quasi-experimental) phase of our research, we found a strong relationship between economic knowledge (as measured by a factual test, an abbreviated version of Schur 1973) and economic attitudes (O'Brien and Ingels 1984, 24-26; Ingels and O'Brien 1985, p. 13 and Tables 3 and 10). One possible explanation for attitude change is that knowledge conveyed in instruction will affect attitudes. Thus, we sought to discover whether level of factual knowledge, so reliable a predictor of attitudinal differences, explains the whole, or only a part, of instruction's attitudinal impact. This question was explored through a two-way analysis of variance (ANOVA), which simultaneously viewed

instructional effects (posttest EVI scale scores of economics students versus scores of those not enrolled in economics) and extent of economic knowledge (EVI scale scores of students with different levels of economic understanding).

If the impact of instruction can be explained by reference to increased understanding alone, one should see no statistically significant scale differences between experimental and control respondents, when comparing like groups within any of the four specified levels of economic knowledge.

The two-way ANOVA of the instruction and control groups showed that extent of economic knowledge was a powerful predictor of statistically significant attitude differences. These differences appeared on all eight scales. Instruction, however, also had a strong independent effect, on some scales (1,2,7,8) though not on others (Scale 3-- and the three scales that showed no change at the posttest--4, 5, 6).

Thus, those who had undergone economics instruction were more likely to strongly support the American economic system (Scale 1), more likely to support the trust in business items (Scale 2), more likely to feel that workers' treatment is fair (Scale 7), and less likely to agree with items attacking the economic status quo for distributive unfairness (Scale 8) than students who had not undergone economics instruction in the same ranking of economic knowledge. The independent effect of text use on these four attitude scales suggests that some of the impact of instruction is not entirely mediated by factual knowledge.

In three cases (Scales 1, 7 and 8) instruction apparently reinforced differences associated with a higher level of economic knowledge. With Scale 2, however, instruction dampened the knowledge-associated tendency toward decreased trust in business. A detailed comparison of cell means for Scales 1 and 2 (given with Table 3 below and depicted in Figures 1 and 2 below) illustrates these contrary tendencies.

Table 3: Two-way ANOVA on Economic Knowledge x Instruction

Scale	F ratios		
	Knowledge	Instruction	Instruction x Knowledge
1	31.781**	28.620**	0.207
2	16.126**	11.621**	0.767
3	38.822**	1.340	1.747
4	3.246*	0.001	0.397
5	8.190**	0.078	2.047
6	5.897**	3.748	0.499
7	8.455**	4.817*	0.368
8	6.792**	4.216*	0.172

* $p < 0.05$
** $p < 0.001$

Scale 1 SUPPORT FOR AMERICAN ECONOMIC SYSTEM - Cell Means

Economic Knowledge	Economic Instruction	No Economic Instruction
	$\bar{X}$	$\bar{X}$
I	5.4	5.2
II	5.6	5.4
III	5.9	5.7
IV {highest knowledge}	6.1	5.8

1 = weakest support
7 = strongest support

Scale 2 TRUST IN BUSINESS - Cell Means

Economic Knowledge	Economics Instruction	No Economics Instruction
	$\bar{X}$	$\bar{X}$
I	5.3	5.1
II	4.9	4.5
III	4.7	4.5
IV {highest knowledge}	4.5	4.4

1 = lowest trust
7 = highest trust

(continued [Scales 7 and 8] next page)

(Table 3 - Economic Knowledge x Instruction - continued)

Scale 7 WORKERS RECEIVE FAIR TREATMENT - Cell Means

Economic Knowledge	Economics Instruction	No Economics Instruction
	$\bar{X}$	$\bar{X}$
I	3.4	3.3
II	3.5	3.4
III	4.0	3.6
IV {highest knowledge}	4.1	4.0

1 = strongest disagreement with scale values

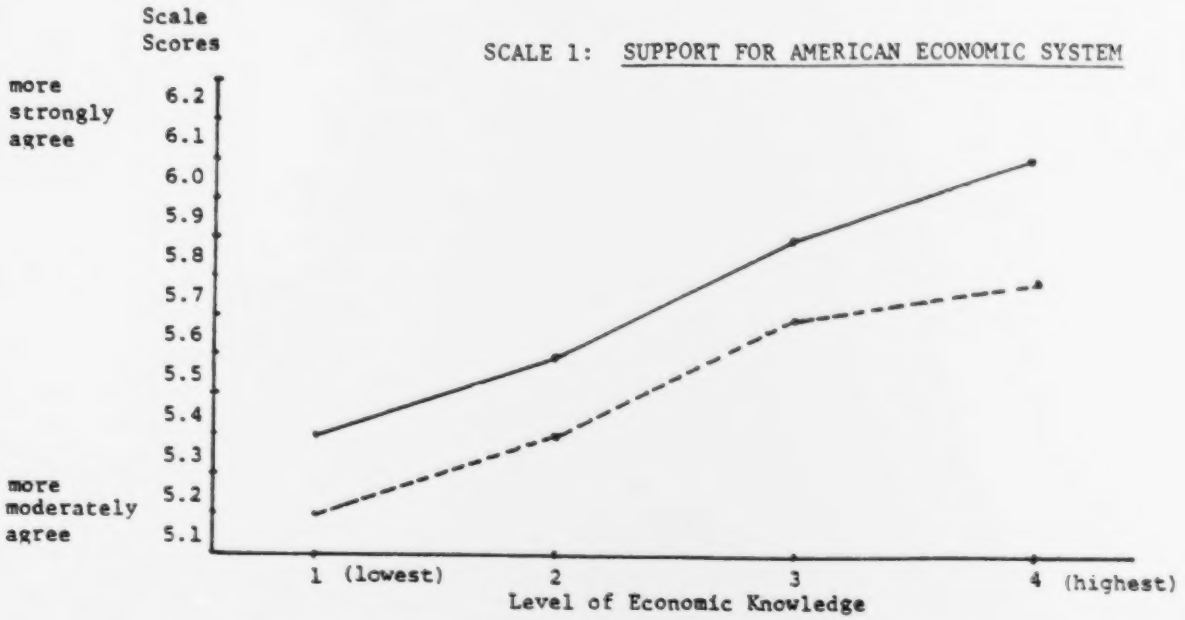
7 = strongest agreement with scale values

Scale 8 AGAINST THE DISTRIBUTIVE STATUS QUO - Cell Means

Economic Knowledge	Economics Instruction	No Economics Instruction
	$\bar{X}$	$\bar{X}$
I	4.7	4.8
II	4.7	4.9
III	4.4	4.6
IV {highest knowledge}	4.1	4.3

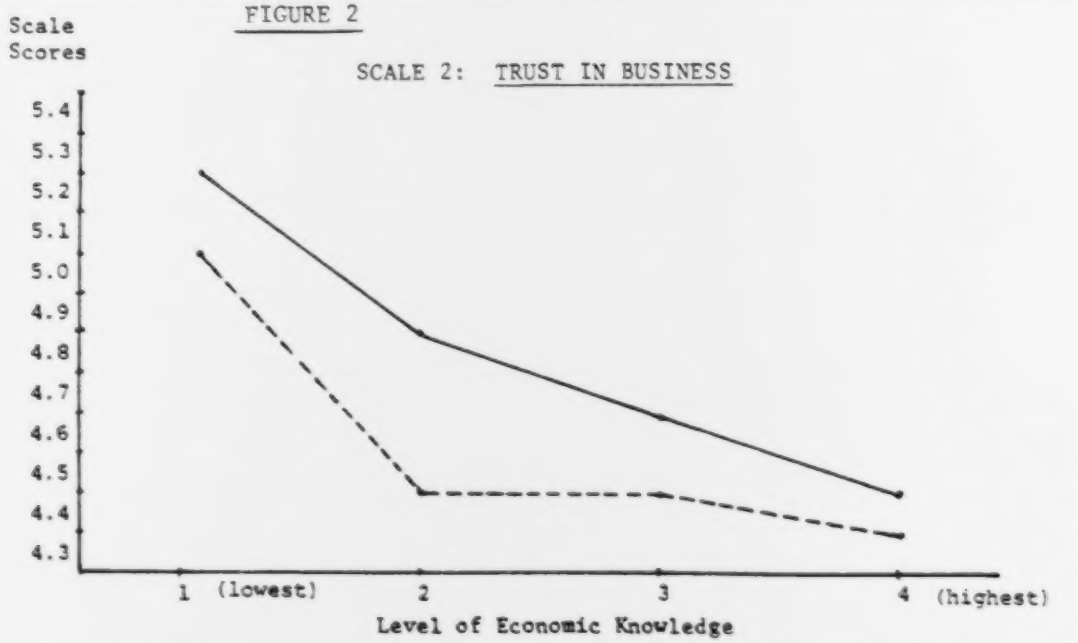
1 = strongest disagreement with scale values
7 = strongest agreement with scale values

FIGURE 1



Support for American Economic System by Level of Knowledge and Economics Instruction vs. No Instruction

FIGURE 2



Endorsement of Trust in Business Scale by Level of Economic Knowledge and Economics Instruction vs. No Instruction

1.0 = strongest disagreement with scale values, 4.0 = neither agree nor disagree, 7.0 = strongest agreement with scale values

6.2 Instructional Effects versus Developmental Trends.

Factual knowledge may be an overly narrow test of the cognitive effects of instruction. In addition, the age and grade homogeneity of our sample limit the prospects for interpreting the observed change in attitudes. It may therefore be useful to draw on the generalizations of developmental psychologists and students of early socialization and ask: what are socioeconomic attitudes developing toward, at a later age and stage? The answer to this question, though it must be general and tentative rather than precise and certain, may nevertheless illuminate our secondary hypothesis: that instruction accelerates developmental trends in economic attitudes.

Generally, adolescence seems to mark a period in which youth become less egalitarian[3], better disposed toward efficiency and equity considerations, and more cynical about societal institutions and actors. Stacey (1982, p. 168) generalizing from the literature of economic socialization in the pre-adult years, maintains that "The general developmental trend is for the young...to come to believe in the legitimacy of extremes of income and riches as a natural part of social life. In addition, behavior-contingent (i.e. functional or incentive value of inequality) and fatalistic (i.e. the way of the world) justifications of existing inequalities become more widely used with age, especially in the teen years." Cummings and Taebel (1978) make a like point about the association between the progress of adolescence and the growth of less egalitarian attitudes. Leahy (1983, p.106) generalizes from recent cognitive-developmental research to the effect that "With increasing age, generally regardless of the child's group membership, there is increasing justification of economic inequality." Students of political socialization view youth as becoming more realistic (or cynical) in their appraisal of the political system with age. For example, Jennings and Niemi (1974, 274- 275) observe that trust in government characterizes young children's views of the political system but that there is a decay in trust as children grow older - especially between eighth and twelfth grades but continuing into adulthood.

Cognitive maturity, defined from either an age or test score perspective, seemingly can be identified with less egalitarian sentiments, increased support of the economic system in its production and efficiency aspects, and diminished trust in business or other social institutions. These generalizations also receive some confirmation from our work with older adolescents (see EVI scale scores for high school seniors in Table 4 and Figure 3 below).

The question, then, of whether instructional effects augmented developmental trends for our ninth grade sample, may be answered - yes (results for Scales 1, 3, 7 and 8) and no (Scale 2). We see a less egalitarian stance at the posttest (Scales 7 and 8), and increased support for the scale that embodies the system of economic production (Scale 1). Change was also observed on the psychological scale (Scale 3): feelings of personal efficacy increased (economic alienation decreased) as support for the American economic system increased and support for the egalitarian

TABLE 4: MEAN EVI SCALE SCORES

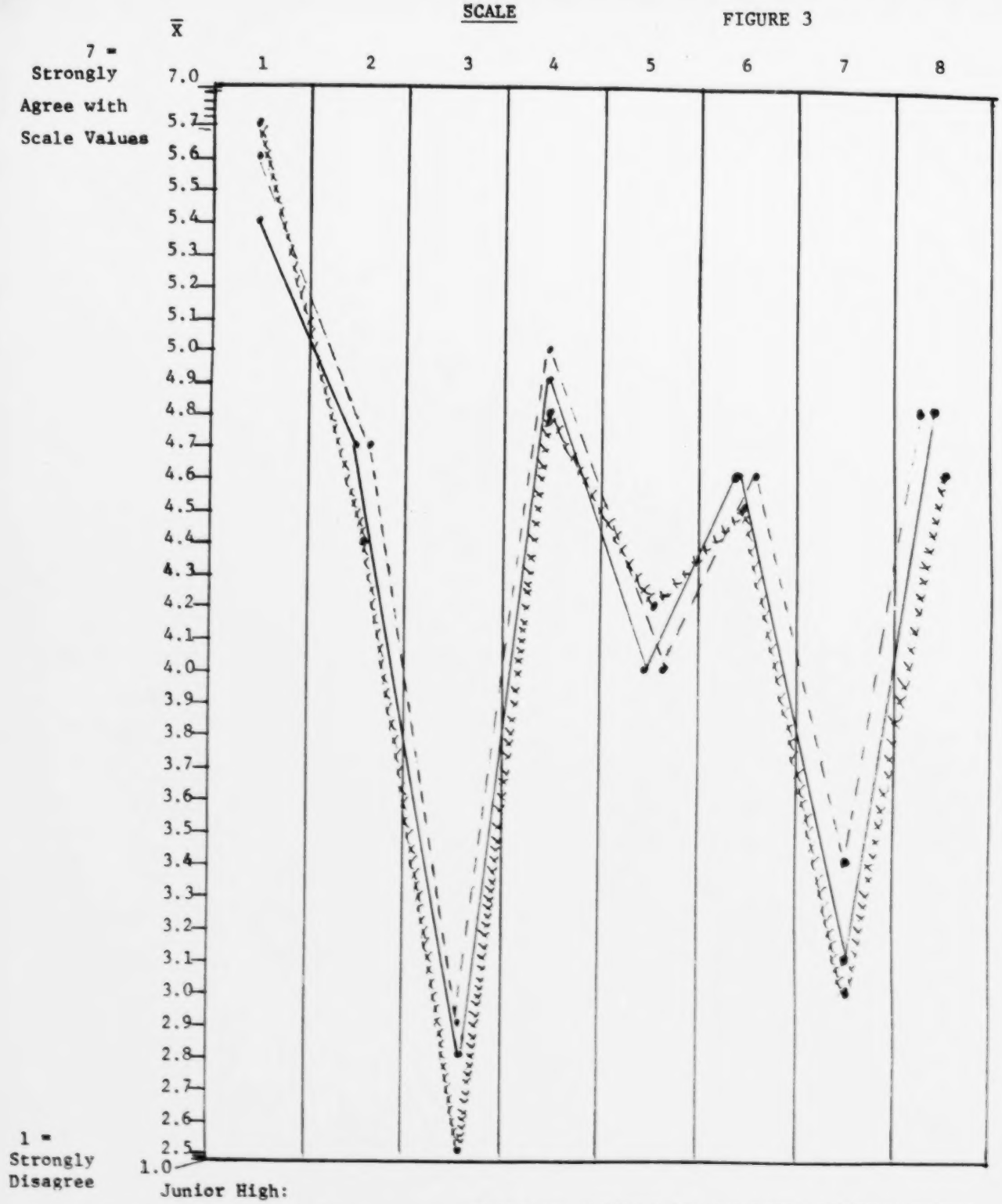
EVI Scale	Phase I Pilot	Phase II Pretest	Phase I Sr. High	Phase II Teachers
1. SUPPORT FOR AMERICAN ECONOMIC SYSTEM	5.4	5.6	5.7	5.9
2. TRUST IN BUSINESS	4.7	4.7	4.4	4.1
3. ALIENATION AND POWERLESSNESS	2.8	2.9	2.5	2.2
4. GOVERNMENT IS RESPONSIBLE FOR SOCIAL WELFARE	4.9	5.0	4.8	4.7
5. AGAINST GOVERNMENT ROLE IN PRICE-SETTING	4.0	4.0	4.2	5.5
6. AGAINST POWERFUL LABOR UNIONS	4.6	4.6	4.5	4.6
7. WORKERS' TREATMENT IS FAIR	3.1	3.4	3.0	4.0
8. AGAINST THE DISTRIBUTIVE STATUS QUO	4.8	4.8	4.6	4.1

1 = strongly disagree; 7 = strongly agree

Phase I Pilot N = 452 (February 1984; Grades 7, 8, 9)
Phase II Pretest N = 1911* (Autumn 1984; Grade 9)
Phase I Senior High N = 207 (January 1984, grade 12)
Phase II Economics Teachers of Sample Students, N = 16, January 1985.
Note: none of these are probability samples.

*Phase II Pretest N (1911) includes schools that did not strictly meet the quasi-experimental conditions and were excluded from the ANCOVA (N=1457).

FIGURE 3



Phase I Pilot, N = 452
Phase II Pretest, N = 1911
Phase I Sr. High, N = 207

Scale 1: SUPPORT FOR AMERICAN ECONOMIC SYSTEM
Scale 2: TRUST IN BUSINESS
Scale 3: ECONOMIC ALIENATION AND POWERLESSNESS
Scale 4: GOVERNMENT IS RESPONSIBLE FOR SOCIAL WELFARE
Scale 5: AGAINST GOVERNMENT ROLE IN PRICE-SETTING
Scale 6: AGAINST POWERFUL UNIONS
Scale 7: WORKERS RECEIVE FAIR TREATMENT
Scale 8: AGAINST THE DISTRIBUTIVE STATUS QUO

distributive scales diminished.[6] That economics instuction worked against the age- and knowledge-related tendency toward diminished institutional trust was also a finding of Jackstadt and Brennan (1983, p.7). They found that cynicism toward business and other economic institutions normally increased with age, but was mitigated by economics instruction. Thus, the impact of instruction would appear to assort comfortably with general age-related developmental trends - with the important exception of the Trust in Business factor, Scale 2.

7. DISCUSSION: KNOWLEDGE, ATTITUDES, AND THE AIMS OF ECONOMICS EDUCATION.

The purpose of this study was to investigate the relationship between cognitive and affective development in economics, as mediated by ninth grade classroom instruction. The general question of the relation between a cognitively oriented economics curriculum and its attitudinal outcomes is a focal point for contemporary debates about the nature and proper purposes of economics education. For there is a double question here, itself both empirical and normative, of, first, whether instruction can greatly influence attitudes and values, and second, of whether it even should. One's answer to the latter question may depend on one's beliefs about the mechanism through which economic understanding influences attitudes and values.

If - as our results suggest - cognitively-oriented economics instruction has an affective impact, that impact might be explained in any of several (not necessarily mutually exclusive) ways.

The first possibility is a rationalistic explanation. To recognize that values and attitudes are not functions or entailments of facts is not of course to deny that they are highly responsive to facts. A fundamental question for economics education is whether students on the whole are rational and open enough to be influenced by the facts that are conveyed to them (Luker 1972, p. 13). To learn more about the economic functions of savings, for example, may properly affect one's attitudes toward savings. Teaching the basic concepts of economics may be justifiably expected to influence student attitudes.

A second possible explanation of cognitive impacts on economic attitudes is a developmental-interactional one. Proponents of this view would maintain that while the cognitive and affective domains may be analytically separable, in practice they are intertwined, in economics itself (hence the utility of Walstad and Soper's economic attitude sophistication scale) and in adolescent development. In early adolescence, awareness of possible contradictions between attitudes sharpens, and youth strive to integrate the economic beliefs that they have derived from diverse sources. Thus, values may become more qualified and focused as youth employ their economic reasoning and knowledge to adjust conflicting attitude claims - for example, values of efficiency, versus values of equality - by assigning them to

different contexts and domains. The developmental-interactional explanation predicts that instruction will accelerate developmental trends in economic attitudes, though it can perhaps do so only within the limits set by the child's cognitive stage. The classroom may vicariously expand economic experience as well as help the adolescent in the formal operations stage to be more reflective and critical about that experience. If, on this view, adolescents may generally be expected to seek greater consistency in and integration of increasingly sophisticated economic beliefs and attitudes, this does not mean that the maturity that adolescents are developing toward is characterized by a perfectly rational belief system. The role of ambivalence, mutability and inconsistency in the socioeconomic attitudes even of adults has often been remarked (Kluegel and Smith 1986, p.21).

A third possible explanation of the affective impact of cognitive materials is an ideological one: economics instruction is never value-free. While some materials are less biased than others, all mirror the ideological assumptions of their authors. A consensus view may exist in economics, but only within a given paradigm, such as neoclassical marginalism or neomarxism. Thus, recent debates over whether secondary economics textbooks suffer from ideological bias are unsurprising (Romanish 1983, 1984; Walstad and Watts, 1984). On this view, adolescents may become less critical of the economic status quo as they come to see themselves as stakeholders in the system - though this identification with prevailing economic norms may be but a species of false consciousness.

A fourth possibility is the latent curriculum explanation. Certain non-cognitive features of the instructional situation may affect attitudes. Since children's economic knowledge and attitudes are derived from and interact with a variety of sources (their own observation and experience of economic transactions and institutions; concepts - for example, fairness - derived from social interaction; their evolving political concepts; and abstract knowledge of economics, from textbooks or elsewhere), and since their instructors are generally possessed of developed economic and political views, it is possible that many economic attitudes are assimilated in the course of classroom interactions with teachers and more knowledgeable classmates. Much classroom learning, including perhaps much attitudinal learning, cannot be traced to anything in a text or official syllabus--while much that features prominently in the official curriculum is broached barely if at all (Goodlad, 1977).

Thus far we have considered some of the possible implications of the truth of our hypothesis that instruction has an affective impact. But the null hypothesis - the prediction that there will be no significant attitudinal effect of instruction - warrants mention also, because it is susceptible of support in modified form, namely that the observed effects are both trivial and ephemeral (this is essentially the conclusion reached by Jennings and Niemi [1974, pp. 190-192] in regard to the affective impact of the civics curriculum.) And should the null hypothesis be confirmed, some might take comfort. While it is generally held to be laudable to teach economic literacy, to convey facts and accepted concepts, it may be thought less desirable to influence economic values and attitudes. There is, for example, a growing literature that asks whether introductory economics

courses have a politically conservatizing (or liberalizing) influence on students (Luker 1972; Rothman and Scott 1975; Riddle 1978; Sosin and McConnell 1979; Luker and Proctor 1981; Jackstadt, Brennan and Thompson 1985). An economics educator well might hope to be spared the suggestion that study of the discipline was in some large sense a subtle form of political indoctrination.

On the other hand, empirical support for the null hypothesis might equally license alarm. Leming (1986) maintains that current cognitively-oriented economics education appears to have little valuational impact, but that normative economic socialization should be one of the primary duties of the economics educator. On this model, economics education should contain an explicit values component, much as moral education or civics. If one assumes that economic and political liberty are intimately connected, then transmitting the methods and concepts of economic science may be only part of the job of economics education in the middle school or high school. (Of course, it remains to be demonstrated whether overt or explicit attempts to inculcate norms really do have a larger or more long-term attitudinal impact on adolescents than an indirect or primarily cognitive approach.)

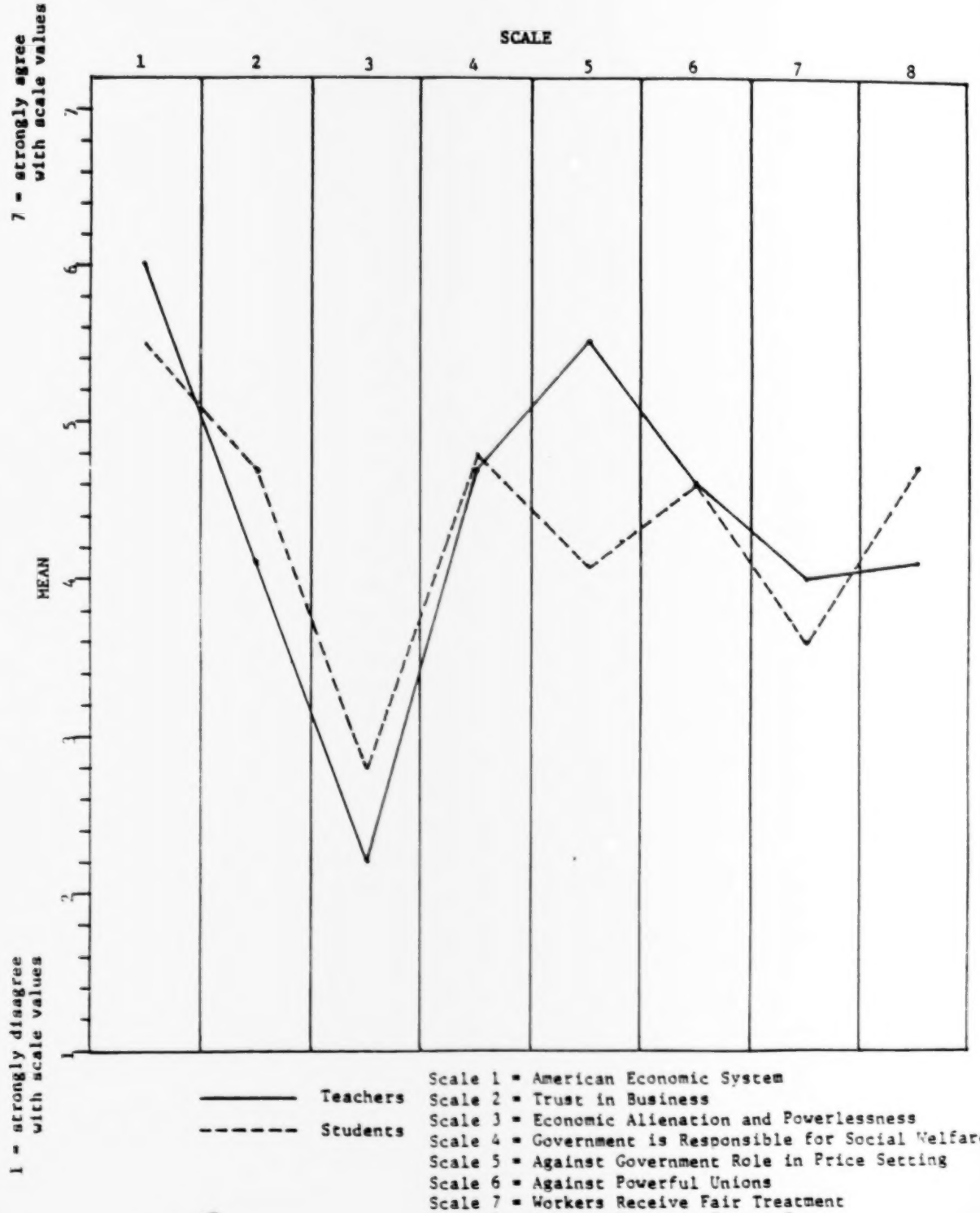
We would greatly overinterpret our findings if we suggested that we could satisfactorily explain the mechanism by which instruction has its apparent attitudinal effect. That little can be said with certainty however does not mean that larger questions should not be asked. Our data are suggestive in several respects, and they underscore the need for additional research.

We instanced four possible explanations for observed attitude change in this quasi-experiment. The rationalistic account holds that greater economic understanding influences and changes the attitudes of adolescents. Our results give qualified support to this explanation. The important qualification is that instruction appeared to have an independent effect over and above the transmission of factual knowledge on four of the five scales that showed change, and on one of those four scales (Trust in Business, Scale 2) mitigated the tendency associated with higher knowledge scores.

The developmental view is that instruction interacts with developmental tendencies, accelerating attitude changes that otherwise would be expected to occur at a slightly later time. Essentially the same analysis can be applied to this case as to the rationalistic explanation: our results give qualified support, with the trust factor (Scale 2) as the important exception.

Our findings do not rule out the latent curriculum hypothesis. However, both the post-instruction increase in Trust in Business scores - an outcome counter to that predicted on the basis of pretest attitudes of teachers (see figure 3 below - note also lack of change on Scale 5) and more knowledgeable students - and the fact that we failed to find significant outcome differences between classes in the same schools (Ingels and O'Brien, 1985, - p.37) fail to lend strong support to the thesis that teacher (or peer) influences in the instructional setting were a major influence.

Figure 4: POSTTEST STUDENT versus TEACHER MEANS BY SCALE



The ideological explanation, however, brings into question something that often is a fundamental assumption of the developmental account. It suggests that attitudes associated with greater age or (ideological) knowledge should not necessarily be given normative status as more rational. A pattern of atttitudes that, from the developmental view, might be lauded as "cognitively mature" might, from another perspective, appear to reflect nothing more than the capacity of an inegalitarian mode of economic organization to culturally reproduce itself (Cummings and Taebel, 1978).

While surely economic socialization does reinforce the economic status quo (indeed, many economics educators would be pleased if it did so even more successfully), we would argue that the concept of more developmentally mature attitudes--interpreted, here, as views less favorable to egalitarian distribution, more sensitive to the considerations of efficient production--may well not be simply a special pleading for existing arrangements. Rather, these may represent a transition to adult (both more impersonal and abstract, and contextually specific) use of such concepts, and the recognition that demands such as equality and efficiency sometimes conflict.

Finally, the modified null hypothesis, that significant change will not occur, or will not be enduring, should be addressed. Statistically significant change did occur. One's judgment of the practical significance of the change will be relative to one's purposes and expectations. From the perspective that seems to us of first importance - namely, that there be a connection between classroom learning and the socioeconomic attitudes of students - we feel that this change can be described as educationally significant as well. On the question of the enduringness of this change, our research supplies no answers. Small changes may prove ephemeral. Or, economic concepts may remain largely latent until further economic experience calls them forth, whereupon they may have a larger though deferred attitudinal impact.

8. RECOMMENDATIONS.

The central finding of this study is that a course of cognitively-oriented economics instruction had a modest but statistically significant impact on student attitudes. We suggest that additional economic attitude research be undertaken with adolescents (including replication of this study, using alternative curriculum materials) and that serious efforts be made to measure the enduringness of economic attitude change. In addition, in order to confidently generalize about developmental tendencies, and to obtain a national norm that would facilitate cross-cohort comparisons over time, we recommend that economic attitude instruments be incorporated into national longitudinal probability samples of adolescents.

NOTES

[1]This research was conducted by NORC, A Social Science Research Center at the University of Chicago, and was sponsored by the Foundation for Teaching Economics.

[2]Economics Values Inventory (EVI) copyright 1984, Foundation for Teaching Economics. For permission to use the EVI and to obtain a copy of the instrument in a form suitable for classroom use, please contact FTE, 550 Kearny Street, San Francisco, CA 94108. Reliability and validity data for the EVI are reported in O'Brien and Ingels 1984, 1987.

[3]While we take as paradigmatic the case of understanding preceding the formation of attitudes--and note that intellectual understanding, without direct experience may not always serve as a sufficient catalyst for attitude formation--it is also the case that economic concepts may sometimes be valorized even when not fully understood. Stacey (1982, p. 169) observes that "even by the mid-teens most young people have little real command of certain socio-economic concepts central to domestic and international economic affairs, e.g. capitalism, socialism, communism, the Third World, feudal, monopoly, demaracation dispute, closed shop policy, stockbroking, though they can judge some of them in (strongly) evaluative terms."

[4]In both phases of the research, a number of variables (including socioeconomic status, gender, political party affiliation and race) were associated with systematic and interpretable student attitude differences. Since such differing personal characteristics were randomly distributed in the instruction and control groups, and thus were in principle excluded from being confounding factors in the analysis of the impact of instruction, we do not report them here. However, for data on the relationship between EVI scale scores, SES, and other theoretically related variables, see O'Brien and Ingels 1984, and Ingels and O'Brien 1985, 1986.

[5]Although the transition from equality to equity receives considerable play in the psychological literature, the notion that egalitarian sentiments quantitatively decline may be an oversimplification. A better description might be that they are qualitatively transformed, that their diminution represents less a shift in ideology than a revision and refinement in the child's conceptual scheme. This possibility is at least suggested by the work of Ng (1983, p.210) who, following Furth (1980), instances the child's growing capacity to differentiate the personal from the impersonal sphere both as a basis for decreased dogmatism about the application of norms such as equality, and as the precondition for understanding the social meaning of many basic economic transactions and institutions. Likewise Damon, in laying out a sequence of age-related levels of justice that proceeds from a naive equality to a more sophisticated coordination of considerations of equality, reciprocity, claims and contexts, stresses that justice reasoning takes on an entirely different form for children than for adults such that uses that young children make of equality have "no direct relation to similar-sounding ideas when applied by adults to the complex distribution

problems of their social world" (1977, p.77). Such observations suggest mechanisms by which increased knowledge and reasoning capacity may effect emotive reorientations, and suggest too the degree of conceptual revision that developmental processes may involve. The study of economics, with its starting point in problems of production and allocation under conditions of moderate scarcity, may focus very sharply indeed for young people entering the formal operations stage the need to coordinate in a sophisticated way such potentially conflicting principles as efficiency and fair distribution. If so, the contribution of economics education to socioeconomic attitudue formation may be of special value.

[6] The decrease in scores for the psychological (inefficacy-alienation) Scale 3 registered at the same time as an increase in Scale 1 scores (support for the American economic system) and small declines in the distributive-egalitarian scales (higher scores for Scale 7 [= workers receive fair treatment] and lower scores for Scale 8 [= Against the Distributive Status Quo] mirrors a pattern of connectedness observed at the pretest. Then, Pearson correlation coefficients ($p=<.000$) were obtained which showed a strong negative correlation between Scales 1 and 3 (-.3113), a positive relationship between Scales 8 and 3 (.2576), and negative relationship between Scales 3 and 7 (-.2257).

BIBLIOGRAPHY

Note: sources cited in the text are marked "*".

*Banaszak, Ronald, "Economics for Early Adolescents," in Mark C. Schug, ed., Economics in the School Curriculum, K-12, Washington, DC: National Education Association, 1985. (ERIC ED-267-002)

Barton, Allen H., "Determinants of Economic Attitudes in the American Business Elite," American Journal of Sociology, 1985, 91 (1), 54-87.

Benton, A.A., "Productivity, Distributive Justice, and Bargaining Among Children," Journal of Personality and Social Psychology, 1971, 18, 68-78.

*Berti, A.E., and Bombi, A.S., "Where Does Money Come From?," Archivio di Psicologia, 1979, 40, 53-77.

*Berti, A.E., and Bombi, A.S., "The Development of the Concept of Money and its Value: A Longitudinal Survey," Child Development, 1981, 52, 1179-1182.

*Berti, A.E., and Bombi, A.S., "The Child's Conception About Means of Production and Their Owners," European Journal of Social Psychology, 1982, 12, 221-289.

Buckles, Stephen, and Freeman, Vera, "Male-Female Differences in the Stock and Flow of Economic Knowledge," Review of Economics and Statistics, May 1983, 65, 355-7.

*Burris, Val, "Stages in the Development of Economic Concepts," Human Relations, 1983, 36, 791-812.

Carey, Susan, Conceptual Change in Childhood, Cambridge, MA: MIT, 1985.

Chizmar, John F. and Halsinski, R. S., "Performance in the Basic Economics Test," Journal of Economic Education, Winter 1983, 14(1), 18-29.

*Clawson, E.U. Our Economy: How It Works. Menlo Park, CA: Addison-Wesley, second edition, 1984.

*Cummings, Scott, and Taebel, Del, "The Economic Socialization of Children: A Neo-Marxist Analysis," Social Problems, 1978, 26, 198-210.

*Damon, William. The Social World of the Child. San Francisco, CA: Jossey-Bass, 1977.

Damon, William Social and Personality Development. New York, Norton, 1983

Danziger, K., "Children's Earliest Conceptions of Economic Relationships," Journal of Social Psychology, 1958, 47, 231-240.

*Davis, James E., et al., A Research-Based Rationale for Middle School Economic Education. Boulder: Foundation for the Development of Learning Technologies, 1985.

Enright, Robert D., Enright, W.F. and Lapsley, D.K., "Distributive Justice Development and Social Class: A Replication," Developmental Psychology, November 1981, 17(6), 826-832.

Feagin, Joseph R., Subordinating the Poor. Englewood Cliffs: Prentice Hall, 1975.

Feather, N.T., "Explanations of Poverty in Australian and American Samples: The Person, Society, or Fate?," Australian Journal of Psychology, 1974, 26(3), 199-216.

Ferber, Marianne A., Birnbaum, B.G. and Green C.A., "Gender Differences in Economic Knowledge: A Reevaluation of the Evidence," Journal of Economic Education, Spring 1983, 19(2), 24-37.

*Fox, Karen, "What Children Bring to School: The Beginnings of Economic Education," Social Education, 1978, 10, 478-481.

Frantz, R., "The Effect of Early Labor Market Experience Upon Internal-External Locus of Control Among Male Workers," Journal of Youth and Adolescence, 1980, 9, 202-210.

Furby, Lita, "Inequalities in Personal Posessions: Explanations For and Judgments About Unequal Distribution." Human Development, 1979, 22, 180-202.

Furnham, Adrian F., "Why Are the Poor Always With Us? Explanations for Poverty in Britain," British Journal of Social Psychology, 1982, 20, 311-322. (1982a)

*Furnham, Adrian F., "The Perception of Poverty Among Adolescents," Journal of Adolescence, 1982, 5, 135-147. (1982b)

*Furnham, Adrian F., and Thomas, Paul, "Pocket Money: A Study of Economic Education," British Journal of Developmental Psychology, 1984, 2, 205-212.

Furnham, Adrian F., and Gunter, Barrie, "Just World Beliefs and Attitudes Towards the Poor," British Journal of Social Psychology, 1984, 2, 205-212.

Furnham, Adrian F., and Lewis, Alan. The Economic Mind. New York: St. Martins, 1985.

Furnham, Adrian F., "Economic Locus of Control," Human Relations, 1986, 39 (1), 29-43.

*Furth, H.G., The World of Grown-Ups: Children's Conceptions of Society. New York: Elsevier, 1980.

Gable, Robert, Instrument Development in the Affective Domain, Hingham, MA: Kluwer, 1986.

Gaskell, George, and Smith, Patten, "An Investigation of Youths' Attribution for Unemployment and Their Political Attitudes," Journal of Economic Psychology March 1985, 6(1) 65-80.

*Goodlad, John I., "What Goes On in Our Schools," Educational Researcher, 1977, 6, 3-6.

Haire, M. and Morrison, F., "School Children's Perception of Labor and Management," Journal of Social Psychology, 1957, 46, 179-197.

Holley, Brian, and Skelton, Valerie, Economics Education 14-16, Oxford: NFER, 1980.

Hochschild, Jennifer, What's Fair? American Beliefs about Distributive Justice. Cambridge, MA: Harvard University Press, 1981.

Hodkinson, S., and Whitehead, D.J., Economic Education: Research and Development Issues. London: Longman, 1986.

Hong Kwang, R.T., and Stacey, Barrie, "The Understanding of Socioeconomic Concepts in Malaysian Chinese School Children," Child Study Journal, 1981, 11, 33-49.

Horton, Robert V., "Values and the Economics Principles Course," Journal of Economic Education, 1972, 3, 118-123.

Ingels, Steven J., and O'Brien, Mary U. "Factors Associated With Changes in Youths' Attitudes Towards Economic Issues." Paper presented at the 40th annual conference of the American Association for Public Opinion Research, McAfee, New Jersey, May 1985. ERIC ED-268-016 (1985a)

*Ingels, Steven J., and O'Brien, Mary U. "An Evaluation of the Impact on Attitudes and Values of the Text Our Economy: How It Works." NORC, University of Chicago, June 1985. ERIC ED-268-017 (1985b)

*Ingels, Steven James, and O'Brien, Mary Utne. "Classroom Learning and Attitude Change: The Impact of a Ninth Grade Economics Course on Social Beliefs and Values." Paper presented to the Midwestern Educational Research Association, October 1986.

Jackstadt, Stephen L., and Crootaert, Christiaan, "Gender Stereotyping, and Socioeconomic Background as Determinants of Economic Knowledge and Learning," Journal of Economic Education, Winter 1980, 12(1), 34-20.

*Jackstadt, Stephen L., and Brennan, J. M., "Economic Knowledge and High School Student Attitudes Toward the American Economic System, Business, and Labor Unions," Theory and Research in Social Education, 1983, 11 (3), 1-15.

*Jackstadt, Stephen L., Brennan, J.M., and Thompson, S., "The Effect of Introductory Economics Courses on College Students' Conservatism," Journal of Economic Education, 1985, 16 (1), 37-51.

*Jahoda, Gustav, "The Construction of Economic Reality By Some Glaswegian Children." European Journal of Social Psychology, 1979, 9, 115-127.

*Jahoda, Gustav, "The Development of Thinking About Economic Institutions," Cahiers de Psychologie Cognitive, 1981, 1, 55-78.

Jahoda, Gustav, and Woerdenbagch, Adrienne, " The Development of Ideas About an Economic Institution: A Cross-National Replication," British Journal of Social Psychology, 1982, 21(4) 337-338.

*Jennings, M. Kent, and Niemi, Richard, The Political Character of Adolescence: The Influence of Families and Schools, Princeton, NJ: Princeton University Press, 1974.

*Kluegel, James R., and Smith, Eliot R., Beliefs About Inequality: Americans' Views of What Is and What Ought To Be. New York: Aldine de Gruyter, 1986.

*Kourilsky, Marilyn, "The Kinder-Economy: A Case Study of Kindergarten Pupils' Acquisition of Economic Concepts," The Elementary School Journal, 1977, 77, 182-191.

Kourilsky, Maryilyn, and Graff, Edna, "Children's Use of Cost-Benefit Analysis: Developmental or Non-Existent?". Paper presented at the annual meeting of the American Educational Research Association, Chicago, 1985.

Ladd, Helen, "Male-Female Differences in Pre-College Economic Education," in Donald Wentworth et al., eds., Perspectives on Economic Education. New York: Joint Council on Economic Education, 1977.

*Leahy, Robert L., ed., The Child's Construction of Social Inequality. New York, Academic Press, 1983.

*Leiser, David, "Children's Conceptions of Economics--The Constitution of a Cognitive Domain." Journal of Economic Psychology, 1983, 4, 297-317.

*Leming, James S., "On the Normative Foundations of Economic Education." Paper presented at the annual meeting of the American Educational Research Association, San Francisco, 1986. (1986a)

Leming, James S., "Rethinking Social Studies Research and the Goals of Social Education," Theory and Research in Social Education, 1986, 14 (2) 139-152. (1986b)

Leventhal, G.S., Popp, A.L., and Sawyer, L., "Equity or Equality in Children's Allocation of Reward to Other Persons?," Child Development, 1973, 44, 753-763.

Lewin-Epstein, Noah, "Employment and Attitudes Towards Working Among High School Youth." Washington DC: NCES, U.S. Department of Education, 1981. (ERIC ED-208-183)

*Luker, William A., "The Relationship Between Economic Knowledge and Certain Elements of the Affective Domain," in Research Papers in Economic Education, ed. Arthur Welsh. N.Y.: Joint Council on Economic Education, 1972.

*Luker, William A., and Proctor, Wanda, "The Effect of an Introductory Course in Microeconomics on the Political Orientation of Students," Journal of Economic Education, 1981, 12 (2), 54-57.

Major, B. and Deaux, K., "Individual Differences in Justice Behavior," in J. Greenberg and R. Cohen (eds.), Equity and Justice in Social Behavior. New York: Academic Press, 1981.

Marshall, H. and Magruder, L. "Relations Between Parent Money Education Practices and Children's Knowledge and Use of Money," Child Development, 1960, 31, 153-284.

Meinkoth, Marian R., "Teachers of Economic Principles: Effect on Student Achievement and Attitudes," Journal of Experimental Education, 40, 1971, 66-72.

Miller, L. and Horn, T., "Children's Concepts Regarding Debt," Elementary School Journal, 1955, 56, 406-412.

*NASSP, Curriculum Report, National Association of Secondary School Principals, December 1981, 11.

*Ng, Sik H., "Children's Ideas About the Bank and Shop Profit: Developmental Stages and the Influence of Cognitive Contrasts and Conflict," Journal of Economic Psychology, 1983, 4, 209-221.

*O'Brien, Mary Utne, and Ingels, Steven J., "Foundation for Teaching Economics Report: The Development of the Economics Values Inventory." NORC, University of Chicago, March 1984. (ERIC ED-250-243)

*O'Brien, Mary U., and Ingels, Steven J., "The Economics Values Inventory," Journal of Economic Education, Winter 1987, 18 (1), 7-17.

Payne, Monica A., and Furnham, Adrian F., "Explaining the Causes of Poverty in the West Indies: A Cross-Cultural Comparison," Journal of Economic Psychology 1985, 6, 215-229.

Powell, Graham E., and Stewart, Robert, "The Relationship of Age, Sex and Personality to Social Attitudes in Children Aged 8-15 Years," British Journal of Social and Clinical Psychology, 1978, 17, 307-317.

*Riddle, Terry, "Student Opinions on Economic Issues: The Effects of an Introductory Economics Course," Journal of Economic Education, 1978, 9 (2), 111-114.

*Romanish, Bruce A., "Modern Secondary Economics Textbooks and Ideological Bias," in Theory and Research in Social Education, 1983, 11 (1), 1-24; and "A Brief Response to Watts and Walstad," Theory and Research in Social Education, 1984 12 (1).

*Rothman, Mitchell P. and Scott, James H. "The Effect of an Introductory Economics Course on Student Political Attitudes," Journal of Economic Education, 1975 6 (2), 118-124.

*Rothman, Robert, "Economic Literacy," Education Week, 1987 (April 1), VI (27), pp. 1 and 56.

Schmölders, GÜnter, Psychologie des Geldes. Reinbek bei Hamburg: Rowohlt, 1966.

Schug, Mark C., "What Educational Research Says About the Development of Economic Thinking," Theory and Research in Social Education, 1981, 9, 25-36.

*Schug, Mark C., "The Development of Economic Thinking in Children and Adolescents," Social Education 1983, 47, 141-145.

*Schug, Mark C., and Birkey, C.J., "The Development of Children's Economic Reasoning," Theory and Research in Social Education, 1985, 13, 31-42.

*Schur, Leon, Junior High School Test of Economics, New York: Joint Council on Economic Education, 1973.

Siegal, Michael, "Children's Perception of Adult Economic Needs," Child Development, 1981, 52, 379-382.

Siegal, Michael, and Schwalb, David, "Economic Justice in Adolescence: An Australian-Japanese Comparison," Journal of Economic Psychology, September 1985, 6(3) 215-229.

Soltan, Karol Edward, "Empirical Studies of Distributive Justice," Ethics, 1982, 92, 673-691.

Soper, John C., and Walstad, William B., "On Measuring Economic Attitudes," Journal of Economic Education, 1983, 14, 4-17.

*Sosin, Kim, and McConnell, Campbell R., "The Impact of Introductory Economics on Student Perceptions of Income Distribution," Journal of Economic Education, 1979, 11 (1), 13-19.

*Stacey, Barrie G., "Economic Socialization in the Pre-Adult Years," British Journal of Social Psychology, 1982, 21, 159-173.

Strauss, A., "The Development and Transformation of Monetary Meanings in the Child," American Sociological Review, 1952, 17, 275-286.

*Sutton, R., "Behavior in the Attainment of Economic Concepts," Journal of Psychology, 1962, 53, 37-46.

Thompson, F.A., "The Interaction of Cognition and Affect: The Issue of Free Trade," Journal of Economic Education, 1973, 4, 111-115.

*Walstad, William B., and Soper, John C., "Measuring Economic Attitudes in High School," Theory and Research in Social Education, Spring 1983, 11, 41-54.

*Walstad, William B., and Watts, M.W., "A Response to Romanish: Ideological Bias in Secondary Economics Textbooks," Theory and Research in Social Education, 1984, 11 (4), 22-35.

Wincour, S. and Siegal, M., "Adolescents' Judgments of Economic Arrangements," International Journal of Behavioral Development, 5, 357-365.

APPENDIX

THE ECONOMICS VALUES INVENTORY

SCALE 1. SUPPORT FOR AMERICAN ECONOMIC SYSTEM.

1. Resources are always limited, and we must make hard choices about the best way to use them.
2. Profits are essential to our country's economic health.
3. Our society owes much to the contributions of business.
4. If workers want higher wages, they must work harder and produce more.
5. People who blame other people or society for their problems are just copping out.
6. My freedom to choose my own occupation is very important to me.
7. It's the duty of people to do their jobs the best they can.
8. Competition between businesses makes for the lowest prices.
9. A company deserves its profits when they come as the result of doing the best job for less money.
10. If you have a valuable skill, you'll get ahead in our society.
11. Groups of individuals with specialized skills, working together, can produce better products than individuals working alone.
12. Our economy needs more people who are willing to save for the future.

SCALE 2. TRUST IN BUSINESS.

13. Most businesses won't sell products they think are unsafe.
14. Government should listen more to what the business community has to say.
15. Businesses could provide more jobs, goods, and services if they didn't have to pay so much in taxes.
16. Advertising helps consumers to make intelligent choices.
17. Most people like their jobs.

SCALE 3. ECONOMIC ALIENATION AND POWERLESSNESS.

18. It's no use worrying about the economy; I can't do anything about it anyway.

19. Getting ahead is mostly a matter of luck.

20. It's foolish to do more than you have to in a job.

21. Having the freedom to start my own business really means having the freedom to take advantage of others.

22. Being in business means taking unfair advantage of others.

23. Profit is a sign that someone is being taken advantage of.

24. The way our economic system is set up, nobody has a chance to get ahead any more.

SCALE 4. GOVERNMENT IS RESPONSIBLE FOR SOCIAL WELFARE.

25. It's the responsibility of the government to take care of people who can't take care of themselves.

26. The poor and the ill have a right to help from the government.

27. A person who cannot find a job has only himself to blame.*

28. It should be the duty of government to be be sure that everyone has a secure job and a decent standard of living.

29. The unemployed shouldn't blame themselves for their situation: it's the fault of the economic system.

30. Taking care of the poor and the sick is the job of families and churches, not the job of the government.*

*Indicates reverse scoring item.

SCALE 5. AGAINST GOVERNMENT ROLE IN PRICE SETTING.

31. Companies should only be allowed to charge a government-controlled price for their products.*

32. It's not the business of the government to control prices.

SCALE 6. AGAINST POWERFUL UNIONS.

33. Unions are too powerful.

34. We'd all be better off if labor unions were stronger.*

35. Employers should have the right to hire non-union workers if they want to.

SCALE 7. WORKERS RECEIVE FAIR TREATMENT.

36. The average worker today is getting his or her fair share.

37. The average worker is getting less than his or her fair share.*

38. Most companies don't give employees a fair share of what the company earns.*

39. Most companies give employees a fair share of what the company earns.

SCALE 8. AGAINST DISTRIBUTIVE STATUS QUO.

40. America's wealth is far too unequally shared.

41. The situation of the average person is getting worse, not better.

42. There are few real opportunities for the average person to start a business in America today.

43. We need a way to make incomes more equal in this country.

44. One of the bad things about our economic system is that the person at the bottom gets less help and has less security than in some other systems.

*Indicates reverse scoring item.